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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,523	12/11/2000	Robert J. Collins	RS001US	4627

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EXAMINER

JONES, SCOTT E

ART UNIT

PAPER NUMBER

3713

DATE MAILED: 02/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,523

Applicant(s)

COLLINS, ROBERT J.

Examiner

Scott E. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

- On page 2, line 3, "a" should be placed between "is" and "system".
- The sentence on page 2, line 11, should end with a period.

The items noted hereinabove are only two examples of deficiencies with the specification. Applicant should review the entire specification and submit corrections for all informalities.

Claim Objections

2. Claims 8, 15-17, and 22-42 are objected to under 37 C.F.R. 1.75 because of the following:

- In Claims 8 and 15-17, an apparatus cannot further limit a method claim.
- In Claims 22-42, method steps cannot further limit an apparatus claim.

Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-5, 7, 12, 18, 21, 23, 28, 33, 39, 42, 44, 47, 52, 58, and 61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Claims 2, 5, 7, 12, 18, 21, 23, 28, 33, 39, 42, 44, 47, 52, 58, and 61 recite the limitation "the speed, direction, distance, location, spin rate, and spin axis orientation". There is insufficient antecedent basis for this limitation in the claims.

6. Claim 3 recites the limitation "the electro-magnetic energy transmission path" in line 3. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 3 recites the limitation "the movement path" in line 4. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 4 recites the limitation "the movement path" in line 4. There is insufficient antecedent basis for this limitation in the claim.

9. The items noted hereinabove are only several informalities noted in the claims. Applicant should review the claims and submit corrections for all claim informalities.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-10, 22-31, and 43-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Teder.

Teder (U.S. 5,700,204) discloses an apparatus and method for determining parameters of motion regarding a struck projectile (golf ball). A Doppler microwave speed sensor measures the apparent speed of a struck golf ball, which is the true speed of the ball subtended onto a radial

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from the sensor to the ball. The speed sensor is positioned a substantial lateral distance from a straight aim line, and the sensor's microwave beam is wide.

Regarding Claims 1, 22, and 43:

- reflecting electro-magnetic energy off the object (golf ball) (Abstract, Column 10, lines 12-43, and Figs. 1, 4, and 16);
- receiving the electro-magnetic energy reflected off the object at a sensor (Abstract, Column 10, lines 12-43, and Figs. 1, 4, and 16); and
- determining a movement characteristic of the object based on the reflected electro-magnetic energy (Abstract, Column 10, lines 12-43, and Figs. 1, 4, and 16).

Regarding Claims 2, 7, 23, 28, 44 and 47:

- the movement characteristic is one of a speed, direction, distance, location, spin rate, and spin axis orientation of the object based on the reflected electro-magnetic energy (Abstract, Column 10, lines 12-43, and Figs. 1, 4, and 16).

Regarding Claims 3, 24, and 45:

- aligning the electro-magnetic energy transmission path to be non-parallel to the movement path of the object (Abstract, Column 7, lines 60-63, Column 8, lines 19-22, Figs. 1 and 16);
- reflecting electro-magnetic energy off the object (Abstract, Column 10, lines 12-43, and Figs. 1, 4, and 16).

Regarding Claims 4, 5, 25, 26:

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- aligning a sensor's electro-magnetic energy reception path to be non-parallel to the movement path of the object (Abstract, Column 7, lines 60-63, Column 8, lines 19-22, Figs. 1 and 16); and
- receiving the electro-magnetic energy reflected off the object at the sensor (Abstract, Column 7, lines 60-63, Column 8, lines 19-22, Figs. 1 and 16).

Regarding Claims 6, 27, and 46:

- determining parameters of a model of the movement of the object based on the reflected electro-magnetic energy (Abstract, and Column 6, line 49-Column 7, line 43);
- determining a movement characteristic of the object based on the determined model parameters (Abstract, and Column 6, line 49-Column 7, line 43).

Regarding Claims 8, 29, and 48:

- the sensor is one of a Doppler radar sensor and a continuous wave Doppler radar sensor (Abstract, Column 6, lines 51-54, and Column 10, lines 12-43).

Regarding Claims 9, 30, and 49:

- receiving the electro-magnetic energy reflected off the object at two sensors (Column 20, line 9-Column 21, line 48, Fig. 16).

Regarding Claims 10, 31, and 50:

- receiving the electro-magnetic energy reflected off the object at three sensors (Column 7, lines 37-43). Multiple sensors can be used to provide more accurate data regarding the motion of a golf ball.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 11-21, 32-42, and 51-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder in view of Chadwell.

Teder discloses that as discussed above regarding claims 1-10, 22-31, and 43-50. Teder seems to lack explicitly disclosing a contrasting marker on an object (golf ball) (Claims 11-21, 32-42, and 51-61).

Chadwell (U.S. 5,662,533) teaches of a golf ball locating apparatus and method of applying a reflective coating to a golf ball that is used to reflect electro-magnetic waves back to a sensor (Column 2, lines 13-44) (Claims 11-21, 32-42, and 51-61).

It would have been obvious to one having ordinary skill in the art, at the time of the applicant's invention, to apply the reflective coating of Chadwell on a golf ball used in Teder. Doing so would enhance the detection of the movement of a golf ball when it is hit with a golf club.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eccher et al. '026, Zur et al. '549, Marinelli '271, Mack '255, Miremadi '794, Nishiyama et al '250, Onuki et al. '833, Bair et al. '139, Curchod '660, DeCrescent '726, Fox et

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al., Gobush et al. '622, Howey '455, and Iijima et al. '355 disclose methods and apparatus for determining parameters of the motion of an object, such as a golf ball.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott E. Jones whose telephone number is (703) 308-7133. The examiner can normally be reached on Monday - Friday, 8:30 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on (703) 308-4119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

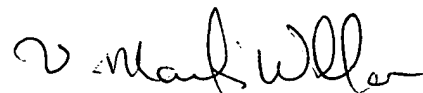
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

Scott E. Jones
Examiner
Art Unit 3713

SEJ

sej

January 29, 2002



VALENCIA MARTIN-WALLACE
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